

## N E W C L A I M S 1 T O 14

1. Cannula (1) for a medical or dental-medical handpiece
- 5 (61b) for spraying a flow medium (6) that contains abrasively effective particles, having
  - a cannula foot (2),
  - a cannula shaft (3) extending substantially straight forwardly from the cannula foot (2),
  - 10 - an outlet nozzle (4) in the forward end region of the cannula shaft (3), directed sideways,
  - whereby in the cannula shaft (3) a first channel section (7a) of a first delivery line (5) extends axially forwardly, from which there extends a second channel section (7b) sideways to the outlet nozzle (4),
  - 15 - whereby in the cannula (1) there extends a second delivery line (21) from an inlet opening (21a) in the region of the cannula foot (2),
  - and whereby a first channel section (21b) of the second
  - 20 delivery line (21) extends forwardly in substance parallel to the first channel section (7a) of the first delivery line (5) over a length section in the rearward end region,
  - characterised in that,
  - 25 the second delivery line (21) extends to to a ring nozzle (21c) surrounding the second channel section (7b) of the first delivery line (5) in the region of the outlet nozzle (4),
  - wherein the first channel section (21b) of the second
  - 30 delivery line (21) is formed by a ring gap (21d) which surrounds a straight channel sleeve (22) emplaced in the cannula shaft (3) and forming the first channel section (7a), and is connected in its forward end region with the

ring nozzle (21c) by means of at least one continuing connection channel (58).

2. Cannula according to claim 1,
- 5 characterized in that, the ring gap (21d) is formed in that the channel sleeve (22) is continuously tapered in a ring-shape from its rearward end region forwardly.
- 10 3. Cannula according to claim 1 or 2, characterized in that, in the second delivery line (21) there is arranged a return flow blocking valve (35a, 35b).
- 15 4. Cannula according to claim 3, characterized in that, the return flow blocking valve (35a, 35b) is a membrane valve or a lip valve.

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- 20 5. Cannula according to claim 3 or 4, characterized in that, the return flow blocking valve (35a, 35b) is or are arranged in the region of the outlet nozzle (4) and/or in the middle region of the cannula (1).
- 25 6. Cannula according to claim 4 or 5, characterized in that, the return flow blocking valve (35a) has a ring-like membrane (52) the inner or outer edge of which is axially fixed and the respective other edge (53) cooperates sealingly with a ring surface (8) and is axially elastically bent outwardly through the flow pressure of the flow medium (6).

7. Cannula according to any of claims 3 to 6,  
characterized in that,  
the return flow blocking valve (35b) is arranged  
5 accessible from the rear in a rearward recess (41a),  
which is preferably closed by a closure part (37).

8. Cannula according to any of preceding claims 3 to 7,  
characterized in that,  
10 the continuing connection channel (58) has a transverse  
channel (36) extending from the forward end region of the  
ring gap (21d).

9. Cannula according to claim 8,  
15 characterized in that,  
the second delivery line (21) has a delivery line section  
(21g) extending forwardly from the transverse channel  
(26) and axis-parallel with reference to the first  
channel section (7a) of the first delivery line (5).

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20 10. Cannula according to claim 9,  
characterized in that,  
the return flow blocking valve (35a, 35b) is arranged in  
the delivery line section (21g).

25 11. Cannula according to claim 9 and 10,  
characterized in that,  
the delivery line section (21g) is accessible from the  
rear.

30 12. Cannula according to claim 10 and 11,  
characterized in that,

the return flow blocking valve (35) can be introduced and exchanged from the rear.

13. Cannula according to any of claims 7 to 12,  
5 characterized in that,

the closure part (37) is releasably connected with the cannula (1) from the rear, preferably by the means of quick-fastening connection device (41).

10 14. Cannula according to any preceding claim,  
characterized in that,  
the outlet nozzle (4) has a nozzle sleeve (8) surrounded by the ring nozzle (21c), which is arranged sunken in an annex (3a) of the cannula standing out to the side.

## A B S T R A C T

The invention relates to a cannula (1) for a medical or dental-medical handpiece (61a) for spraying a flow medium 5 which contains abrasively effective particles, having a cannula shaft (3) which is in substance straight, and a sideways directed outlet nozzle (4) in the forward end region of the cannula shaft, wherein in the cannula shaft (3) a first channel section (7a) of a delivery line (5) 10 extends axially forwardly, from which there extends a second channel section (7b) sideways to the outlet nozzle (4). In order to increase the working life, in the region of the apex (11) of the angle ( $W_1$ ) included by the channel sections (7a, 7b) there is arranged an impact 15 wall (13) lying axially opposite to the first channel section (7a), and/or the channel sections (7a, 7b) are surrounded by a protective wall (13a) at least over a part of their length, wherein the impact wall (13) and/or the protective wall (13a) are of a material that is more 20 wear resistant or harder than the material of the cannula shaft (3).